

CLAIMS

What is claimed is:

1. A rock crusher including an oscillating cone within a conical shaped bowl wherein the bowl is adjustable relative to the cone for crushing rock to specific sizes, said rock crusher comprising:

a frame including an annular bowl support, a bowl adjustably supported within said annular bowl support for vertical adjustment of the bowl;

said vertical adjustment provided by mated screw threads on said support and said bowl, the screw threads on one of the support and bowl provided by a thread form and a thread producing insert seated in said thread form, said insert projecting from the thread form and providing the screw thread surface in mated engagement with the thread of the other of said support and said bowl.

2. A rock crusher as defined in Claim 1 wherein the insert is comprised of a elongated metal strip sized and configured to fit the configuration of the thread form, said insert being of a material that is dissimilar than the material of the bowl support and bowl.

3. A rock crusher as defined in Claim 1 wherein the insert is comprised of an elongated resilient member that is sized and configured to fit a thread form provided on the bowl support, said thread form in natural state assuming a curved shape having a radius of curvature greater than the thread form and which is resiliently forced into the thread form to provide a grip-type seating of the insert in the thread form.

4. A rock crusher defined in Claim 2 wherein the insert is comprised of an elongated resilient metal member that is sized and configured to fit a thread form provided on the bowl, said thread form in natural state assuming a curved shape having a radius of curvature smaller than the thread form and which is resiliently forced onto the thread form to provide a grip-type seating of the insert in the thread form.

5. A rock crusher as defined in Claim 1 wherein the bowl and bowl support, within the region of the thread and thread form and without the insert seated in the thread form, are sized to provide free sliding of the bowl through the bowl support, the insert fitted to the thread form providing the screw-type relationship as between the bowl and bowl support.

6. A rock crusher as defined in Claim 5 wherein the thread form has a similar configuration to that of the screw thread of the other of said support and bowl and the insert being diamond shaped to fit the screw thread and screw thread form.

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7. A rock crusher including an oscillating cone within a conical shaped bowl wherein the bowl is adjustable relative to the cone for crushing rock to specific sizes, said rock crusher comprising:

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a frame including an annular bowl support, a bowl adjustably supported within said annular bowl support for vertical adjustment of the bowl;

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said vertical adjustment provided by mated screw threads on said support and said bowl whereby the bowl is screwed up or down on the support and thereby closer or farther away from said bowl;

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an annular lock ring having a screw thread mated to the bowl and screwed onto the bowl and defining a surface in abutment with a surface of the support;

an annular chamber provided in one of the lock ring and bowl support and an annular piston fitted to the chamber, said piston providing the abutment surface for said lock ring or bowl support; and

a hydraulic fluid source providing hydraulic fluid to the chamber, and a control for controlling the hydraulic fluid flow to the chamber for urging movement of the piston toward the support and thereby producing a binding-type lock that inhibits screw movement of the bowl.

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8. A rock crusher as defined in Claim 7 wherein the piston is provided with a seal portion between the piston and hydraulic fluid and expands under pressure to seal the chamber and induces movement of the piston against the other of the lock ring and bowl support.

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9. A rock crusher as defined in Claim 8 wherein the annular chamber is provided in the lock ring.

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10. A rock crusher as defined in Claim 7 wherein the screw threads on the support and the lock ring are provided by thread forms and inserts seated in said thread forms, said inserts projecting from the thread forms and providing the entire screw thread surfaces in mated engagement with the thread of the bowl.

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11. A rock crusher as defined in Claim 1 wherein the thread producing insert is configured along one side to mate with the

thread form and provide removal and replacement without re-machining of the thread form.

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